

## PATENT ABSTRACTS OF JAPAN

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OKUTSU SATOSHI**(54) POSITIVE HOLE INJECTION MATERIAL FOR ORGANIC ELECTROLUMINESCENCE ELEMENT AND ORGANIC ELECTROLUMINESCENCE ELEMENT USING THE SAME****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To provide the subject material having excellent positive hole injection ability, excellent adhesiveness with a metal and an organic compound in forming a thin film and high durability and usable as a flat light source or an indication device.

**SOLUTION:** The objective material is expressed by the formula [R<sup>1</sup> to R<sup>20</sup> are each H, a halogen, a (substituted) alkyl, a (substituted) alkoxy, a (substituted) thioalkoxy, etc.]. The compound of the formula is synthesized by e.g. charging a polar solvent, a halogenoamine compound, 5-8 times mol of a substituted aromatic amine compound and a catalyst such as an alkali metal atom or a metal compound in a flask and reacting the compounds at  $\geq 200^{\circ}\text{C}$  for 5-50 hrs.

Preferably, a layer containing the material is used as a luminescent layer comprising a layer or plural layers of organic compound thin films between a pair of electrodes, in a case of obtaining an organic electroluminescence element.

